

**Remarks**

On entry of this response, Applicants have amended claims 8, 15, 20, 26, 33, 40 and 45.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 are pending in the instant application, of which claims 8, 15, 20, 26, 33, 40 and 45 are independent.

**I. Summary of Rejections**

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as failing to comply with the utility requirement.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §103(a) as being unpatentable over WO 03/001891 to Kelly *et al.* (hereinafter “Kelly”).

These rejections will be discussed separately below.

**II. Statutory Subject Matter under 35 U.S.C. §101**

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as being drawn to non-statutory subject matter. (See the Office Action, page 2).

**A. Useful Result**

The Examiner asserts that “[t]he instant claims do not produce a useful result.” (See the Office Action, page 4).

Applicants note that the United States Court of Appeals for the Federal Circuit (CAFC) has recently discarded the “useful, concrete, and tangible result” test for determining patentable subject matter under 35 U.S.C. §101. *In re Bilski*, Case 2007-1130 (Fed. Cir. 2008) (*en banc*). Therefore, Applicants respectfully urge that the Examiner reconsider and withdraw the above 35 U.S.C. §101 rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87.

In *In re Bilski*, the CAFC noted that the transformation of data representative of an underlying physical object or substance was sufficient to confer patentability even without transformation of the underlying physical object or substance. Applicants have amended claims 8, 20, 26 33 and 45 to be directed to the transformation of data representative of chemical substances. In view of the claim amendments, Applicants respectfully submit that the claims of the present application are directed to statutory subject matter, and respectfully request reconsideration and withdrawal of the above 35 U.S.C. §101 rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87.

#### **B. Article of Manufacture**

With respect to claims 15-18, 40-43 and 77-81, the Examiner asserts that “the claims are drawn to a computer readable medium,” and “computer readable medium includes carrier wave, which is a signal.” (See the Office Action, page 4).

Applicants respectfully submit that claims 15-18, 40-43 and 77-81 are directed to an “article of manufacture having embodied thereon computer-readable instructions.” The Board of Appeals and Interference (BPAI) recently affirmed that “a ‘Beauregard Claim’ of this nature be considered statutory at the USPTO as a product claim.” *Ex parte Bo Li*, Appeal 2008-1213 (BPAI 2008). Claims 15-18, 40-43 and 77-81 are directed to a product, which is well established as being statutory subject matter. 35 U.S.C. §101.

For reasons set forth above, Applicants respectfully submit that claims 15-18, 40-43 and 77-81 are directed to statutory subject matter. Therefore, Applicants request that the 35 U.S.C. §101 rejection of claims 15-18, 40-43 and 77-81 be withdrawn.

### **III. Utility Requirement under 35 U.S.C. §101**

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §101 as failing to comply with the utility requirement. (See the Office Action, page 7).

Applicants respectfully submit that the automatic refinement of a constructed model produces a useful result. The instant application recites:

In other words, the simulation engine 120 generates the dynamic behavior of the model and communicates at least some of this dynamic behavior to the analysis environment. The analysis environment 130 may provide refinements to a model in the modeling environment 110 and may provide parameters for use by the simulation engine 120 when executing a model. The interaction between the modeling environment 110, the simulation engine 120, and the analysis environment 130 will be discussed in more detail below.

(Page 5, line 28 through page 6, line 5). In the above description, the instant application describes that the simulation of a model is used to refine a model so that the model represents a dynamic system more accurately. Applicants submit that the refinement of a model is useful for the artisan to build an accurate model.

For reasons set forth above, Applicants respectfully submit that the claims of the instant application comply with the utility requirement. Therefore, Applicants request that the 35 U.S.C. §101 rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

**IV. Written Description Requirement under 35 U.S.C. §112, First Paragraph**

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. (See the Office Action, page 9).

The Examiner asserts that “since the claimed invention lacks a patentable utility due to its not being supported by a specific, substantial, and credible utility or, in the alternative, a well-established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.” (See the Office Action, page 9).

As discussed above, the instant application describes that the simulation of a model is used to refine the model so that the model represents a dynamic system more accurately. The instant application supports the utility of the claims.

For reasons set forth above, Applicants respectfully submit that the claims of the instant application complies with the written description requirement. Therefore, Applicants request that the 35 U.S.C. §112, first paragraph rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

**V. Claim Rejections under 35 U.S.C. §103(a)**

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kelly (See the Office Action, page 10). Applicants respectfully traverse the rejection.

**A. Claims 8, 15, 20, 26, 33, 40 and 45**

Applicants respectfully submit that Kelly fails to teach or suggest at least the following feature of claims 8, 15, 20, 33, 40 and 45: ***the constructed model is modified by user commands received through both a graphical user interface and a textual user interface that is separate from the graphical user interface***, and the following feature of claim 26: ***the constructed model***

*being modified by user commands received through both a graphical user interface and a textual user interface that is separate from the graphical user interface.*

The Examiner recognizes that “Kelly et al. do not explicitly teach modifying the constructed model by user command received through both a graphical user interface and a textual interface.” (See the Office Action, page 11). The Examiner, however, contends that “it would be readily apparent to one of ordinary skill in the art that an interface on a video display would inherently a graphical interface.” (Office Action, page 12). Applicants respectfully disagree.

In Kelly, a user interface can be displayed on the video display (108). (See Kelly, page 12, line 31 through page 13, line 2). Kelly, however, does not teach or suggest that the user interface displayed on the video display (108) is a graphical user interface that receives user commands to modify a model. There is no disclosure in Kelly that the user interface displayed on the video display (108) receives user commands to modify a model. A graphical user interface that receives user commands to modify a model is not an obvious feature over Kelly.

The Examiner also contends that “[i]t would have been obvious to one of ordinary skill in the art that in order to modify the model, commands would have to be transmitted and that an obvious route to transmit such commands would have been via the network interface device.” (Office Action, page 12). Applicants respectfully disagree.

The network interface device (118) described in Kelly is not a user interface. In Kelly, the network interface device (118) is used for a computer to connect to a network. The network interface device (118) described in Kelly is not a user interface that receives user commands to modify a model.

Furthermore, Applicants respectfully submit that the claimed invention requires that user commands be received through **both** a graphical user interface and a textual user interface that is separate from the graphical user interface. Applicants submit that the feature of providing **both** a graphical user interface and a textual user interface that is separate from the graphical user interface to modify a model is not obvious over Kelly. Modifying a model using **both** a

graphical user interface and a textual user interface gives a user a choice of using the type of interface with which the user is most comfortable. Kelly does not teach or show that a model is modified using *both* a graphical user interface and a textual user interface. The prior art, at best, provides a single type of user interface.

In view of reasons set forth above, Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 8, 15, 20, 26, 33, 40 and 45 be withdrawn.

**B. Claims 9-12, 16-18, 22, 27-30, 34-37, 41-43, 47, 52-67 and 77-87**

Claims 9-12 depend on base claim 8 and, as such, incorporate all of the features of claim 8. Accordingly, claims 9-12 are novel for at least the reasons set forth above with respect to claim 8. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 9-12.

Claims 16-18 depend on base claim 15 and, as such, incorporate all of the features of claim 15. Accordingly, claims 16-18 are novel for at least the reasons set forth above with respect to claim 15. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 16-18.

Claim 22 depends on base claim 20 and, as such, incorporates all of the features of claim 20. Accordingly, claim 22 is novel for at least the reasons set forth above with respect to claim 20. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claim 22 be withdrawn.

Claims 27-30 depend on base claim 26 and, as such, incorporate all of the features of claim 26. Accordingly, claims 27-30 are novel for at least the reasons set forth above with respect to claim 26. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 27-30 be withdrawn.

Claims 34-37 depend on base claim 33 and, as such, incorporate all of the features of claim 33. Accordingly, claims 34-37 are novel for at least the reasons set forth above with

respect to claim 33. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 34-37 be withdrawn.

Claims 41-43 depend on base claim 40 and, as such, incorporate all of the features of claim 40. Accordingly, claims 41-43 are novel for at least the reasons set forth above with respect to claim 40. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 41-43 be withdrawn.

Claim 47 depends on base claim 45 and, as such, incorporates all of the features of claim 45. Accordingly, claim 47 is novel for at least the reasons set forth above with respect to claim 45. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claim 47 be withdrawn.

Claims 52-63 depend on base claim 8 and, as such, incorporate all of the features of claim 8. Accordingly, claims 52-63 are novel for at least the reasons set forth above with respect to claim 8. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 53-63 be withdrawn.

Claims 64-67 depend on base claim 26 and, as such, incorporate all of the features of claim 26. Accordingly, claims 64-67 are novel for at least the reasons set forth above with respect to claim 26. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 64-67 be withdrawn.

Claims 77-87 depend on base claim 40 and, as such, incorporate all of the features of claim 40. Accordingly, claims 77-87 are novel for at least the reasons set forth above with respect to claim 40. Applicants respectfully request that the 35 U.S.C. §103(a) rejection of claims 77-87 be withdrawn.

Furthermore, Applicants respectfully submit that Kelly does not teach or suggest “annotating the model to add user-provided annotations,” as recited in claims 52, 64 and 77. There is no disclosure in Kelly of “annotating the model to add user-provided annotations,” as recited in claims 52, 64 and 77.

Furthermore, Applicants respectfully submit that Kelly does not teach or suggest “automatically connecting elements of the model,” as recited in claims 53, 65 and 78. There is no disclosure in Kelly of “automatically connecting elements of the model,” as recited in claims 53, 65 and 78.

As such, Applicants request that the rejection of claims 9-12, 16-18, 22, 27-30, 34-37, 41-43, 47, 52-67 and 77-87 be withdrawn.

## **VI. Conclusion**

In view of the above comments, Applicants believe that the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant’s attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-108RCE2. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

Dated: January 14, 2009

Respectfully submitted,

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